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ABSTRACT

Two of the most popular delivery formats in distance education are video conferencing and online methodologies. The first step in the processes of recognition and reorganization needed for both forms of distance education is to identify the differences between the traditional classroom environment and the classroom that is augmented or replaced by one of these formats. Student comparisons of the two major distance education formats and traditional classroom characteristics were gathered through summative evaluations examining four major topics: (1) organization of class; (2) student/instructor interaction; (3) concept acquisition; and (4) use of variety of media. Student demographic data were also collected to investigate any correlation between these factors and preference. Results for 142 video conferencing and 62 online students show that students rating the 4 major variables called distance education either "the same as" or "better than" their experiences in a traditional course. Two factors that appeared to be of the utmost importance to students, and that should be examined carefully by instructors, departments, and distance education organizations, are the technological needs of students taking the course and the need for an emphasis on near perfection in the performance of equipment in video conferencing. Additional training for instructors who will use either of these formats may improve the adaptation of materials into a proper format for delivery. A follow-up study is planned to study differences in student ratings of the distance education class prior to implementation of teacher training and to compare these ratings to those obtained after teacher training. (Contains 11 references.) (Author/SLD)

Running head: ASSESSMENT OF STUDENT PREFERENCE FOR TWO
METHODOLOGIES OF TEACHING THROUGH DISTANCE LEARNING

Assessment of Students Ratings for Two Methodologies of Teaching
Via Distance Learning: An Evaluative Approach Based on Accreditation

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Abstract

A close examination of the needs of the students in the distance learning environment may illustrate a need for modest or extensive modification in course design and delivery, teaching methodology, and even choice of material presentation format. Students' needs for distance learning are determined by multiple variables, and are likely affected by each institution's particular approach to Distance Education. A highly utilized method for determining student needs is through formative and summative evaluations. Criterion used to design these surveys and subsequently to measure student satisfaction in these surveys may be best drawn from "must" items presented by an accrediting agency, as well as from various other successful Distance Education programs.

Two of the most popular delivery formats in distance education are Videoconferencing and Online methodologies. Each of these formats possesses certain variables that must be approached differently and skillfully by the instructors to provide for the highest level of quality and success for students. The first step in the process of recognition and reorganization needed for both forms of distance education is to identify the differences that exist between the traditional delivery classroom environment and the classroom that is either augmented or replaced by one of these formats. Student comparisons between the two major formats and traditional classroom characteristics were gathered by summative evaluations, examining four major topics: organization of class, student/instructor interaction, concept acquisition, and use of variety of media. Finally, student demographic data was also collected to investigate any possible correlation

between these factors and preference. Results show distance education students rating the four major variables in the comparison categories as either "the same as" or "better than" their experiences in a traditional course. Analysis revealed no clear correlation between such factors as age range or classification. Two factors that appear to be of the utmost importance to students, and that should be carefully examined by instructors, departments, and Distance Education organizations are the technological needs of students prior to taking the course as well as a need for an emphasis on near perfection in performance of equipment in Videoconferencing. Additional training for instructors who are or will be utilizing either of these formats may improve the adaptation of material into proper format suitable for material delivery through the selected method of teaching. A follow-up study to this will seek to investigate differences in a student rating scale of the distance education class prior to implementation of teacher training and compare these rates to those obtained from post-teacher training.

COMPARISON OF STUDENT PREFERENCE FOR TWO METHODOLOGIES OF TEACHING THROUGH DISTANCE LEARNING

In order to obtain maximum student achievement, it is imperative to provide an appropriate match between the material being taught and the learning environment in which the material will be presented to the student. For this to occur in the field of distance education, it is a necessity for instructors to be knowledgeable of and understand the needs and desires of students in the virtual world of learning. How has accreditation contributed to the evaluation and improvement of the Distance Education program, leading to the ability for us to better meet student needs? Most institutions and educational organizations have drawn their knowledge of meeting students' needs from their accrediting agencies, as well as from examples provided from successful self-studies conducted at local and nationwide colleges. Successful Distance Education institutions have developed criteria that "must" be upheld and complied with in order for courses to maintain validity, meet students' needs, and be offered on a continual basis. Accreditation agencies are primarily focused on the ability of the institution to satisfy particular needs of the learner. Through this approach, it is possible to focus attention on areas that may come up lacking in the Distance Education program. Through student-focused evaluation, changes can be made to the course, and even to the department, that will successfully meet the needs of the students, while also meeting the accreditation needs of the institution.

Literature Review

DELIVERY MODES

The majority of the literature on evaluation of distance education delivery modes has emphasized the differences that may occur on student ratings between traditional and distance learning methods. Though the earliest research indicated major inadequacies between the traditional, in-class delivery method and those methods used in distance education, most recent studies have shown that instruction via Videoconferencing or Online, or through other distance education methods, receives somewhat different, but not worse, student ratings than do traditional, on-campus courses. Many studies (Souder, 1993) present data in which courses offered through Distance Education methods have student course ratings that are higher in such areas as achievement on examinations, while some studies (Egan, Sebastian, & Welch, 1991) present cases in which courses taught through Distance Education methods result in lower student ratings on particular variables, such as class organization.

Various hypotheses have been presented for the differences that occur between distance education and traditional-delivery courses in student ratings on such variables as overall satisfaction with the course, concept acquisition and/or cognitive gain, and a diversity of others. Some of the more prevalent hypotheses for these differences include the lack of face-to-face interaction with instructor or other students (Coldeway, MacRury, & Spencer, 1980), lack of access to resources (library, admissions, advisement), lack of familiarity with delivery medium on the part of both the instructor and the students, lack of preliminary orientation with medium, lack of contact with the instructor, improper choice of Distance Education format for course, or equipment unreliability or failure. One of the newest research studies focuses on the effects of immediacy of response from the instructor in an online course on student's perceived

concept acquisition in an online course (Baker, 2001). The results of Baker's (2001) study found a strong positive correlation between the perception of instructor immediacy (of response to students) with affective learning, with the hypothesis being a positive correlation at $r=.73$, $p<.01$.

ACCREDITATION POLICIES

Policy statements from most accreditation agencies (i.e., Southern Association of Colleges and Schools; Western Association of Schools and Colleges) state specifically that they require the same level of quality across all forms of education, independent of whether the course is taught traditionally or through alternative methods such as distance education. These accreditation agencies focus on such important topics as the following:

- Provision of appropriate "learning resources", typically including library and research materials
- Student learning outcomes and achievement
- Overall student satisfaction with course
- Synchronous and/or asynchronous interaction between instructor-student and student-student
- Appropriate presentation of course objectives and material, consisting of matching material with appropriate delivery methods as well as meeting the needs of the students

This list is not, in any means, meant to be comprehensive. Rather, it is meant to emphasize the variables in accreditation that focus quite specifically on the student needs in a distance education course, as well as to highlight and support the need for the evaluative approaches taken in this research.

Accreditation agencies set forth guidelines in the form of "must" and "should" statements. "Must" statements are absolutes, and require the institution to comply with

these particular policies. The "should" statements differ in that they are proposed as more of suggestions, rather than absolutes. However, many of the "should" statements tie directly into the "must" guidelines. For the purpose of this study, only the "must" statements were investigated.

Method

In this study, a multiple variable, summative survey was used to evaluate the satisfaction level of students in various undergraduate and graduate distance education courses, using either the Videoconferencing (n=142) or the Online (n=62) format. These evaluations were generally presented on the final day of the class, and served to provide data that could be used to determine student satisfaction level, and multiple other student ratings. These surveys were not used as instructor evaluations, merely as evaluations of the distance education methods used in the course.

SURVEY DEVELOPMENT AND DISTRIBUTION

The questions on the evaluative surveys were developed after extensive review of the "must" statements required from the institution's accreditation agency. Questions were analyzed for compliance with the accreditation agencies standards. Results from this analysis for the Videoconferencing evaluation showed 76.6% of the questions (Q. 12-Q. 47) were pulled either directly from the accreditation criteria or were derivatives from the criteria. For the Online evaluation, 73.81% of the questions (Q. 12-Q. 42) complied directly with the "must" statements of the accreditation agency, or were derivatives of the "must" statements. Twelve additional questions (Q. 1-12 in both formats) were also developed to provide demographic and registration information to the Distance Education department about the students. Individual variables reflective of

the particular delivery method were investigated, as well as cross-method variables. Specific variables investigated in Videoconferencing include quality of line connectivity and preferred method of material transfer, as well as necessity of student visitation to campus. Delivery-specific questions for the Online format concentrated on variables such as material supplementation and conversion to appropriate digitized format.

Evaluations were distributed in two manners: Videoconferencing surveys were mailed to both on and off-campus sites, and students completed the surveys and handed them in to the site coordinator. Surveys were then mailed back to the distance education department for analysis. In the Online learning format, the survey was modified into a web-based form that allowed students to complete and submit it electronically. Both the Videoconferencing and the Online surveys were anonymous, and were illustrated as such on the heading.

ANALYSIS

Data from these surveys was collected and entered into a statistical program (SPSS) for analysis for percentage agreement on the four major student response categories: organization of class, student/instructor interaction level, concept acquisition, and use of variety of media. Demographic questions such as age group and classification level (freshman, sophomore, junior, senior, or graduate) were analyzed with these four major factors in a Pearson correlation matrix to determine factors that may predict satisfaction with the Distance Education program. An additional factor, "overall rating", was also included in this analysis.

Results

Analysis of the data used in this research was drawn from two separate pools—paper-based evaluative surveys for Videoconferencing (n=142) and web-based evaluative surveys for Online (n=62). Results for each method of delivery will be examined below.

ONLINE

Analyzing the percent of respondents in the gender category revealed a relatively high (82.3%) response rate in the female category. Class level was primarily graduate students (54.8%), followed by juniors (22.6%), seniors (19.4%), and sophomores (3.2%). No respondents listed themselves as freshmen. Age range had a high response rate in the 21-30 category (59.7%), followed by 41-50 (19.4%), 31-40 (17.7%), and Under 21 (3.2%). Ratings of same or better for each of the four major topics investigated were as follows: 90.3% (organization of class), 74.2% (student/instructor interaction), 87.1% (concept acquisition), and 90.3% (variety of media). See Figure 1.

Additionally, two interaction variables (contact with instructor, willingness to participate) were examined. A total of 90.3% of students stated that the contact with their instructor either remained the same or improved as a result of the online format. Students reported that willingness to respond or participate was either improved (61.3%) or the same as (22.6%) their responsiveness in traditional classes. See Figure 3.

An analysis for correlation between the four target variables with age range or designated class level revealed no significance. Several of the target variables were found to have significant correlations among each other. See figure 5.

VIDEOCONFERENCING

Slightly more equitable gender distribution was available in this survey; females ranked at 69.7%. Class level was again primarily graduate (74.6%), followed by senior (21.8%) and junior (3.5%). Age range was primarily in the 21-30 category (69%), followed by 31-40 (19.7%), 41-50 (7.0%), Under 21 (2.1%), Over 60 (1.4%), and 51-60 (.7%). Ratings of same or better for each of the four major topics investigated were as follows: 86.6% (organization of class), 62.7% (student/instructor interaction), 88% (concept acquisition), and 90.9% (variety of media). See Figure 2.

Analysis of the two interaction variables (contact with instructor, willingness to participate) revealed 82.4% of students stated that the contact with their instructor either remained the same or improved as a result of the online format. A total of 62.7% of students reported that willingness to respond or participate was either improved or the same as their responsiveness in traditional classes.

See Figure 4.

An analysis for correlation between the four target variables with age range or designated class level revealed no significance. Several of the target variables were found to have significant correlations among each other. See figure 6.

Discussion

Results from this study show that for the four major variables investigated (organization of class, student/instructor interaction, concept acquisition, and variety of media), students rated each medium within the acceptable range for meeting the accreditation demands upon the institution. From the four major variables, the only area appearing slightly weak for the University is the area of student/instructor interaction.

Remedies for this that have been implemented include training for instructors on appropriate and timely communication methods, as well as strong encouragement of methods of contact aside from either face-to-face or email. Students in the Online format whose instructors utilized the asynchronous Discussion Board and/or the synchronous Virtual Chat stated in many cases in the "Additional Comments" area that they had enjoyed the discussions through these methods. It appears that face-to-face contact may not necessarily be the most important factor. Rather, frequent and personal contact on a one-to-one basis, whether through asynchronous or synchronous methods, may be the best approach for meeting this student need.

Information from the results of these surveys was used by the Distance Education department to decide on appropriate and needed changes for the program. Results from surveys such as these could be used as guidelines for insightful planning in Distance Education programs nationwide, as well as used as strategies for improving current conditions for the students, faculty, and staff.

The various potential problems that may develop in distance education make it imperative to take an offensive approach that results in a search for every negative that may be identified, and in turn diligently search for and implement optimal and timely solutions to combat these problems. This is mostly, up-front, a disheartening, uphill, and continuous battle, but positives (such as high student ratings on concept acquisition, student/instructor interaction, administrative procedures, and overall success of the course) do, in the end, outweigh the negatives. Several factors may have been very influential in the resulting positive ratings from students. These variables may consist of such things as: willingness of the faculty to ask for help; the amount of assistance,

orientation, training, and follow-up help the faculty is given and offered, and that they in turn present to their students; the involvement of the Distance Education staff and others; and the motivation of the instructor to make the course "work". (Some of these results were determined by specific questions from the survey instruments, while others were grouped together from the numerous responses provided in the "Additional Comments" section of the survey.) Guidelines presenting a list of required features, such as those used in accrediting agencies, help to focus the institution, and therefore the distance education organization, departments, and faculty members, on the needs of the student. Research from the numerous studies comparing traditional, in-class achievement level of students to the achievement levels of students taking classes via a Distance Education format indicates that the instructional format itself, whether this may be an online tutorial, interactive video, or a live instructor in a classroom, has little, if any, effect on student achievement. The two most important factors for determining equitable achievement across all delivery methods are to ensure that the course delivery technology is appropriate to the content being offered, as well as to ensure that all students have access to the same technology (Willis, 1994).

Why do institutions first decide to make changes in their Distance Education programs? Is it for the good of the students? Probably not. Often, the first changes that are made are made belatedly, and are often made simply to comply with the institution's accreditation agency. However, should this be considered a major issue? Do the intentions of the institution, whether they chose to make the change for the good of the student or simply to maintain their accreditation, influence the quality of the change? How do the accreditation standards match up with the needs of the students? There is a

need for more information on these variables. Results from this study indicated a clear match between the "must" statements required by the accreditation agency and the summative evaluation given to the students. Additionally, the results showed high levels of student satisfaction. Thus, the guidelines imposed by the accreditation agency seem to be working effectively to encourage the institution to provide the necessary services to meet student needs. Pinpointing the needs of the student, whether the motivation lies behind simply maintaining accreditation or behind providing exemplary education to students, can serve to increase the success of the Distance Education unit.

It is essential to evaluate Distance Education formats such as Videoconferencing and Online in both a formative and summative perspective. Formative evaluations lead to improvement for the current students, as well as yield results that can be used for future reference. The use of summative evaluations in Distance Education classes is not without its benefits. However, these are typically done more on an institutional demand or accreditation demand basis, rather than as a device to better the service to the student. The need for a preliminary evaluation of the Distance Education program, course, instructor, and student is great, and must be implemented by every organization to not only comply with accreditation, but also to better equip all of these individuals with the necessary skills to succeed in Distance Education.

SUGGESTED READINGS

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Figure 1. Student ratings comparing Online format variables to traditional format variables

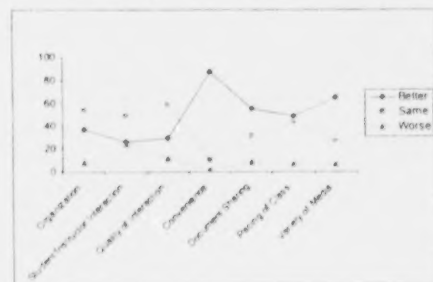


Figure 2. Student ratings comparing VC format variables to traditional format variables

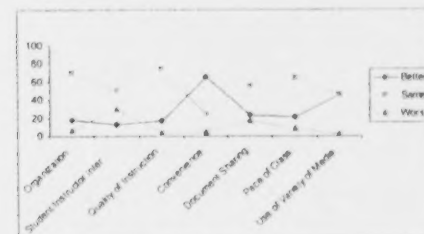


Figure 3. Effect of Online format on three interaction variables

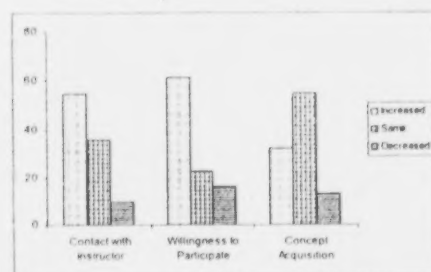


Figure 4. Effect of VC format on three interaction variables

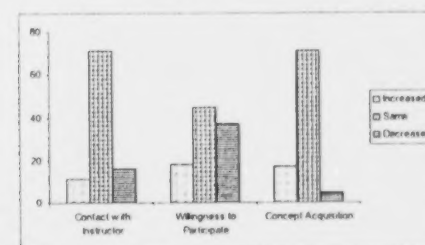


Figure 5

Correlations

		Designated Class Level	Age range	Organization of class	student/inst ructor interaction	use of variety of media	Overall rating of Online	concept acquisition
Designated Class Level	Pearson Correlation	1	.073	-.100	.069	.027	-.039	-.140
	Sig. (2-tailed)		.571	.441	.597	.840	.764	.279
	N	62	62	61	61	59	62	62
Age range	Pearson Correlation	.073	1	.241	.150	.218	.248	.288*
	Sig. (2-tailed)	.571		.061	.250	.097	.052	.023
	N	62	62	61	61	59	62	62
Organization of class	Pearson Correlation	-.100	.241	1	.555**	.507**	.380**	.493**
	Sig. (2-tailed)	.441	.061		.000	.000	.003	.000
	N	61	61	61	61	59	61	61
student/instructor interaction	Pearson Correlation	.069	.150	.555**	1	.500**	.320*	.532**
	Sig. (2-tailed)	.597	.250	.000		.000	.012	.000
	N	61	61	61	61	59	61	61
use of variety of media	Pearson Correlation	.027	.218	.507**	.500**	1	.423**	.500**
	Sig. (2-tailed)	.840	.097	.000	.000		.001	.000
	N	59	59	59	59	59	59	59
Overall rating of Online	Pearson Correlation	-.039	.248	.380**	.320*	.423**	1	.513**
	Sig. (2-tailed)	.764	.052	.003	.012	.001		.000
	N	62	62	61	61	59	62	62
concept acquisition	Pearson Correlation	-.140	.288*	.493**	.532**	.500**	.513**	1
	Sig. (2-tailed)	.279	.023	.000	.000	.000	.000	
	N	62	62	61	61	59	62	62

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 6

Correlations

		Designated Class Level	Age range	Organization of class	student/inst ructor interaction	use of variety of media	concept acquisition	Overall rating of VC
Designated Class Level	Pearson Correlation	1	.221**	.197*	.074	.143	.139	.101
	Sig. (2-tailed)	.	.008	.024	.398	.102	.112	.235
	N	142	141	132	132	132	131	139
Age range	Pearson Correlation	.221**	1	.079	.034	.037	.137	.165
	Sig. (2-tailed)	.008	.	.371	.700	.677	.121	.053
	N	141	141	131	131	131	130	138
Organization of class	Pearson Correlation	.197*	.079	1	.448**	.357**	.498**	.052
	Sig. (2-tailed)	.024	.371	.	.000	.000	.000	.556
	N	132	131	132	132	132	131	131
student/instructor interaction	Pearson Correlation	.074	.034	.448**	1	.162	.519**	.248**
	Sig. (2-tailed)	.398	.700	.000	.	.064	.000	.004
	N	132	131	132	132	132	131	131
use of variety of media	Pearson Correlation	.143	.037	.357**	.162	1	.418**	.284**
	Sig. (2-tailed)	.102	.677	.000	.064	.	.000	.001
	N	132	131	132	132	132	131	131
concept acquisition	Pearson Correlation	.139	.137	.498**	.519**	.418**	1	.129
	Sig. (2-tailed)	.112	.121	.000	.000	.000	.	.145
	N	131	130	131	131	131	131	130
Overall rating of VC	Pearson Correlation	.101	.165	.052	.248**	.284**	.129	1
	Sig. (2-tailed)	.235	.053	.556	.004	.001	.145	.
	N	139	138	131	131	131	130	139

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).